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PTO-1390 (Rev. 07-2005)

Approved for use through 3/31/2007. OMB 0651-0021
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371		ATTORNEY'S DOCKET NUMBER C12-IRF-2005003 U.S. APPLICATION NO. (If known, see 37 CFR 1.5)
INTERNATIONAL APPLICATION NO. PCT/US2004/025062	INTERNATIONAL FILING DATE 02 August 2004	PRIORITY DATE CLAIMED 04 August 2003
TITLE OF INVENTION MOLECULAR DETECTOR		
APPLICANT(S) FOR DO/EO/US Idaho Research Foundation		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
<p>1. <input type="checkbox"/> This is a FIRST submission of items concerning a submission under 35 U.S.C. 371.</p> <p>2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371.</p> <p>3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.</p> <p>4. <input type="checkbox"/> The US has been elected (Article 31).</p> <p>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</p> <p>6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). a. <input type="checkbox"/> is attached hereto. b. <input checked="" type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).</p> <p>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input type="checkbox"/> have not been made and will not be made.</p> <p>8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</p> <p>10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</p>		
Items 11 to 20 below concern document(s) or information included:		
<p>11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input type="checkbox"/> A preliminary amendment.</p> <p>14. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76.</p> <p>15. <input type="checkbox"/> A substitute specification.</p> <p>16. <input checked="" type="checkbox"/> A power of attorney and/or change of address letter.</p> <p>17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821- 1.825.</p> <p>18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4).</p> <p>19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).</p>		

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
	PCT/US2004/025062	C12-IRF-2005003

20. Other items or information:

The following fees have been submitted			CALCULATIONS	PTO USE ONLY
21. <input type="checkbox"/> Basic national fee (37 CFR 1.492(a))..... \$300			\$	
22. <input type="checkbox"/> Examination fee (37 CFR 1.492(c)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 All other situations.....\$200			\$	
23. <input type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority.....\$100 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB..... \$400 All other situations.....\$500			\$	
TOTAL OF 21, 22 and 23 =				
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.				
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE	
- 100 =	/50 =		x \$250	\$
Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).			\$	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	\$
Total claims	- 20 =		x \$ 50	\$
Independent claims	- 3 =		x \$200	\$
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$360	\$
TOTAL OF ABOVE CALCULATIONS =			\$	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by ½.				
			SUBTOTAL =	\$
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).			+ \$	
TOTAL NATIONAL FEE =			\$	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property			+ \$	
TOTAL FEES ENCLOSED =			\$	
			Amount to be refunded:	\$
			Amount to be charged	\$

- a. A check in the amount of \$ _____ to cover the above fees is enclosed.
- b. Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees.
A duplicate copy of this sheet is enclosed.
- c. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-3763. A duplicate copy of this sheet is enclosed.
- d. Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.

SEND ALL CORRESPONDENCE TO:

Paul Roath
8950 W. Emerald, Suite 198
Boise, ID 83704

Paul Roath

SIGNATURE

Paul D Roath

NAME

45,045

REGISTRATION NUMBER

International Patent Application No: PCT/US2004/025062
Attorney Docket No: C12-IRF-2005003

IN THE UNITED STATES RECEIVING OFFICE

PATENT COOPERATION TREATY
United States Receiving Office

In Re International Application of: IDAHO RESEARCH FOUNDATION
International Application No: PCT/US2004/025062
International Filing Date: 02 August 2004 (02.08.2004)
For: MOLECULAR DETECTOR
Date: March 6, 2006

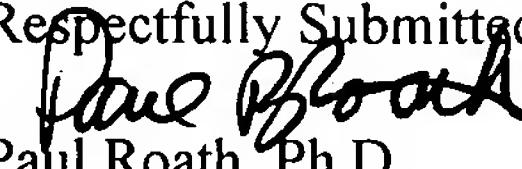
TRANSMITTAL LETTER

Mail Stop PCT
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Transmitted herewith are the following Documents:

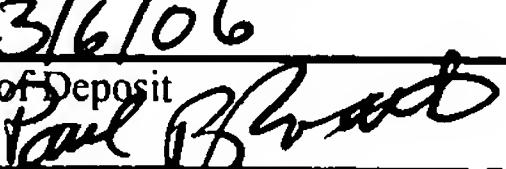
- 1) Transmittal Letter Concerning Submission under 35 U.S.C. 371, last sheet in duplicate;
- 2) IDSUnder 37 C.F.R. § 1.97(b)(1);
- 3) PTO Form 1449;
- 4) 13 cited references.

Respectfully Submitted

Paul Roath, Ph.D.
Registration No. 45,045

Technology Law Group
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Boise, ID 83704
Telephone: 208-989-4472
Facsimile: 208-989-5755

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, PO Box 1450 Alexandria, VA 22313-1450.

3/6/06
Date of Deposit

Signature

Typed or Printed Name of Person Signing Certificate

IN THE UNITED STATES RECEIVING OFFICE

PATENT COOPERATION TREATY
United States Receiving Office

In re application of: : **IDAHO RESEARCH FOUNDATION**
:
International Application No.: : **Group Art Unit: To be assigned**
: **PCT/US2004/025062**
:
International Filing Date: : **Examiner: To be assigned**
: **2 August 2004 (02.08.2004)**
:
For: : **Attorney Docket No.: C12-IRF 2005003**
: **MOLECULAR DETECTOR**
:
:

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97(b)(1)

MAIL STOP PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

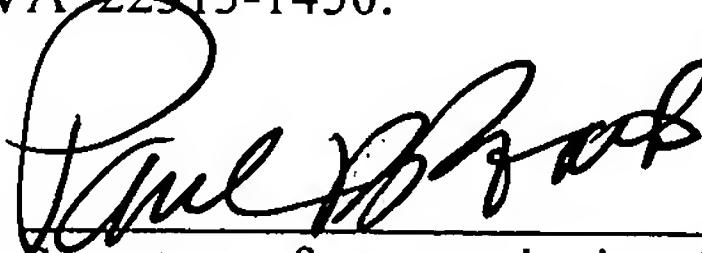
Sir:

Pursuant to 37 C.F.R. §1.56 and 1.97(b)(1), Applicant brings to the Attention of the Examiner the documents listed on the attached Form PTO-1449. As this Information Disclosure Statement is being filed before expiry of three months from the filing date of this application or before the first office action, no fee is believed to be due. However, if any fee is due, the Commissioner is authorized to charge Deposit Account No. 50-3763. Moreover, please credit any overpayment to Deposit Account No. 50-3763.

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8

I certify that this document, along with any document referred to as being attached, is being deposited with the U.S. Postal Service on 3/6/06 as first class mail under 37 C.F.R. §1.8 and is addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PAUL Roath
Name of person signing document



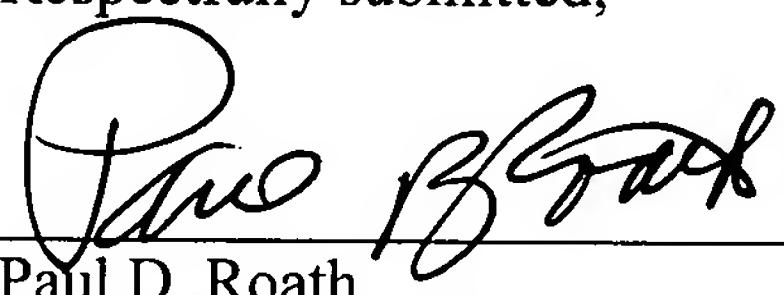
Signature of person signing document

Applicant respectfully requests that the Examiner consider the listed documents and indicate that they were considered by making appropriate notations on the attached PTO-1449 form.

This submission does not represent that a search has been made or that no better art exists and does not constitute an admission that each or all of the listed documents are material or constitute "prior art". If the Examiner applies any of the documents as prior art against any claims in the applicant and Applicant determined that the cited documents do not constitute "prior art" under United States law, Applicant reserves the right to present to the Patent Office the relevant facts and law regarding the appropriate status of such documents. Applicant further reserves the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should one or more of the documents are applied against the claims of the present application.

Respectfully submitted,

Date: 3/6/06


Paul D. Roath
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Boise, ID 83704
Telephone (208)-340-9532

FORM PTO-1449 Modified

**List of Patents and Publications
Cited by Applicant
(Use several sheets if necessary)**

**U.S. Department of Commerce
Patent and Trademark Office**

Sheet 1 of 3

Docket No.
C12-IRF-2005003

Serial No.
PCT/US2004/025062

Applicant
Idaho Research Foundation

Filing Date
August 2, 2004

U.S. Patent Documents

EXAMINER

DATE CONSIDERED

FORM PTO-1449 Modified

**List of Patents and Publications
Cited by Applicant
(Use several sheets if necessary)**

**U.S. Department of Commerce
Patent and Trademark Office**

Sheet 2 of 3

Docket No. C12-IRF-2005003	Serial No. PCT/US2004/025062
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Applicant Idaho Research Foundation
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Filing Date August 2, 2004	Group
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Foreign Patent Documents

Examiner Initial	Document No.	Date	Country	Translation YES	NO

Other Documents (Including Author, Title, Date, Pertinent Pages, Etc.)

AA	Gregorian & Temes, <u>Analog MOS Integrated Circuits for Signal Processing</u> , John Wiley and Sons, 1986. Pages 412-415, 425-437.
BB	Yukawa, <u>A CMOS 8-Bit High Speed A/D Converter IC</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-20(3):775-779, 1985
CC	McCarroll <i>et al.</i> , <u>A High-Speed CMOS Comparator for Use in an ADC</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-23(1):159-165, 1988
DD	Bazes, <u>Two Novel Fully Complementary Self-Biased CMOS Differential Amplifiers</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-26(2):165-168, 1991
EE	Yin <i>et al.</i> , <u>A High-Speed CMOS Comparator with 8-b Resolution</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-27(2):208-211, 1992
FF	Atherton & Simmonds, <u>An Offset Reduction Technique for Use with CMOS Integrated Comparators and Amplifiers</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-27(8):1168-1175, 1992

EXAMINER**DATE CONSIDERED**

FORM PTO-1449 Modified

Sheet 3 of 3

**List of Patents and Publications
Cited by Applicant
(Use several sheets if necessary)**

**U.S. Department of Commerce
Patent and Trademark Office**

Docket No. C12-IRF-2005003	Serial No. PCT/US2004/025062
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Applicant Idaho Research Foundation
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Filing Date August 2, 2004	Group
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Foreign Patent Documents

Examiner Initial	Document No.	Date	Country	Translation YES	NO

Other Documents (Including Author, Title, Date, Pertinent Pages, Etc.)

GG	Razavi & Wooley, <u>Design Techniques for High-Speed, High-Resolution Comparators</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-27(12): 1916-1926, 1992
HH	Lee, <u>A 12-b 600 ks/s Digitally Self-Calibrated Pipelined Algorithmic ADC</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-29(4):509-515, 1994
II	Cho & Gray, <u>A 10 b, 20 Msample/s, 35 mW Pipeline A/D Convertor</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-30(3):166-172, 1995
JJ	Redman-White, <u>A High Bandwidth Constant g_m and Slew-Rate Rail-to-Rail CMOS Input Circuit and its Application to Analog Cells for Low Voltage VLSI Systems</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-32(5): 701-712, 1997
KK	Lanzoni <i>et al.</i> , <u>Automatic and Continuous Offset Compensation of MOS Operational Amplifiers Using Floating-Gate Transistors</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-33(2):287-290, 1998
LL	Leme <i>et al.</i> , <u>A Low-Power CMOS Nine-Channel 40-MHz Binary Detection System with Self-Calibrated 500-μV Offset</u> , <i>IEEE Journal of Solid State Circuits</i> , sc-33(4):565-572, 1998
MM	Fritz <i>et al.</i> , <u>Electronic Detection of DNA by its Intrinsic Molecular Charge</u> , <i>PNAS</i> , 99(22):14142-14146, 2002
NN	Zhang, et al., <u>Protein Quantification from Complex Protein Mixtures Using a Proteomics Methodology with Single-Cell Resolution</u> , <i>PNAS</i> 98(10): 5497-5502, 2001.

EXAMINER**DATE CONSIDERED**